Work Order ID 61074

August 5, 2010 11:02:33 AM



Page 1

Item ID:

D212-664-101

Accept



Setup Start



Revision ID:

- Item Name:

Required Date: 8/20/10

Crosstube Fwd

Start Date:

8/05/10

QC:

Start Qty: 1.00

Req'd Qty: 1.00



Cust Item ID:

Customer:

Reference:

Approvals:

Date:10-8-05

Date:

Tooling:

SPC (Y/N):

Date:

Date:

Run

·Start

Stop



Stop

Sequence ID/ Work Center ID

Operation Description

Revision Nbr

Set Up/ **Run Hours** Tool ID

Tool # Plan Code Accept Qty

Reject Reject Qty Number

Insp. Stamp

Draw Nbr

D212-664-141 Rev D

100

DOCUMENT CONTROL

Memo

0.00

0.00

Document Control

Photocopy bluefile and create labels as per PPP D212-664-101 CHG003

10/08/19.

110

Packaging

Packaging

Pick Kit

Packaging

Memo

0.00

0.00

Y CL 10-8-18



CNC Alpha 160 Bender

BENDING MACHINE - CROSSTUBES

Memo

0.00

0.00

Bend tube as per Dwg D212-664-141 using CNC bender program 212-fw and Folio D212-664-101

Dart	Aeros	pace	Ltd
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Dart Ae	rospace	Liu					1	
W/O:			WORK ORDER (CHANGES				
DATE	ŞTEP	PI	ROCEDURE CHANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
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*14								•
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								\
Part No	:	PAR #:	Fault Category:	NCR: Yes	No DQ	A :	_ Date: _	
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NCR:		WORK ORDER NON-CONFORMANCE (NCR)								
		Description of NC		Corrective Action Section B	Verification	Approval	Ammuousi			
DATE	STEP Description of NC Section A	Initial Chief Eng		Section C	Chief Eng	Approval QC Inspector				
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Work	Order	· ID	616	174

August 5, 2010 11:02:33 AM



Page 2

Item ID:

D212-664-101

Accept

Setup Start

Stop

Revision ID:

Item Name:

Crosstube Fwd

Start Date:

8/05/10

Start Qty: 1.00

Required Date: 8/20/10

Req'd Qty: 1.00



Cust Item ID: Customer:

Reference:

Α	nn	rov	als	:

Process Plan: _____ Date: ____

Tooling:

Date:

Run

Start

Stop



Sequence ID/

QC: Date:

SPC (Y/N):

Set Up/

Run Hours

Date: Tool ID

Tool # Plan

Code

Reject Accept **Qty**

Reject Number Stamp

Insp.

Work Center ID

130

Quality Control

Operation Description

QC15- Crosstube Dimensional Check

Memo

0.00

0.00

0.00

Qty

140



Crosstubes

Crosstubes

Memo

0.00

1-Drill pilot holes in tube as per Dwg D212-664-141 using drill Jig DT8548 & DT8549, using drill table DT8577, set-up towers in hole #7 as per QSI 10 #2.

2-Ream hole to finish size in tube as per Dwg D212-664-141using drill Jig DT8548 & DT8549. Check dimensions between holes, both sides on both cuffs. to ensure alignment with saddle holes.

3-Scribe part # and batch # using vibrating stylus as per Dwg D212-664-141

4-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D212-664-141

AUM 10-08-11

W/O:			WORK ORDER	CHANGES				
DATE	STEP	PRO	OCEDURE CHANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
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Part No			Fault Category:		es No D o			

NCR: WORK ORDER NON-CONFORMANCE (NCR)								
		Description of NC		Corrective Action Section E	3	Verification	Approval	Approval QC Inspector
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Work Order ID 61074

August 5, 2010 11:02:33 AM



Page 3

Item ID:

D212-664-101

Accept



Setup Start

Stop



Revision ID:

Item Name:

Crosstube Fwd

Start Date: 8/05/10 Required Date: 8/20/10 Start Qty: 1.00

Req'd Qty: 1.00

Cust Item ID:

Customer:

Reference:

Approvals:

Process Plan: _____ Date: _____

Date: _____

SPC (Y/N):

Set Up/

Tooling:

Date:

Tool ID

Date:

Tool # Plan

Code

Run

Accept

Qty

Start



Stop

Reject

Qty

Number Stamp

Reject

Sequence ID/

Work Center ID

150

HandFXtube

Operation **Description**

Crosstubes Chemical Conversion

Memo

Memo

Run Hours

0.00

0.00

Hand Finishing Crosstubes

Chemical Conversion Coat within 24 hours of bending and drilling

160

OC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Diolos M

170

Outsource2

Outsource process - NDT

Outsource process - NDT per QSI038 4.1

0.00

0.00

0.00

Liquid Penetrant Inspection as per QSI 038 Issue P/O: i23974

LPI as per ASTM 1417 Level 2

Attach copy of NDT results to work order

CZ 10/8/12 0

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W/O:			WORK ORDER CHANGES							
DATE	STEP	PRO	CEDURE CHAI	NGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	
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Part No	:	PAR #:	Fault Cate	gory:	NCR: Yes	No DQ	A:	Date: _		
	Re	esolution:	Disposition):	_ QA: N/C C	losed:		Date: _		
NCR:		· ·	WORK ORDE	R NON-CONFORMA	NCE (NCI	₹)				
		STEP Description of NC Section A		Corrective Action Section	on B	Verific	ation	Annroyal	Approval	
	STEP		Initial Chief Eng	Action Description Chief Eng	Sign Date	& Secti		Approval Chief Eng	QC Inspector	
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Work Order ID 61074

August 5, 2010 11:02:33 AM



Page 4

Item ID:

D212-664-101

Accept



Date: _____

Tool # Plan

Setup Start



Revision ID:

Item Name:

Crosstube Fwd

Start Date: 8/05/10 Required Date: 8/20/10

Start Qty: 1.00

Reg'd Oty: 1.00



Cust Item ID: Customer:

Reference:

Approvals:

Process Plan:

Date: Date:

Tooling:

0.00

0.00

SPC (Y/N):

Set Up/

Run Hours

Tool ID

Date:

Code

Reject

Qty

Sequence ID/

Work Center ID

180

Packaging Packaging

Operation **Description**

QC:

Receive & Inspect for Damage & Mat'l Certs

Packaging

Memo

Ensure copy of NDT results attached to work order.

190

QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

Inspect for damage & ensure results are as per Dwg D212-664-141

Run

Start

Stop

Stop

Reject Insp. Number Stamp

Accept

Qty

CX 10/8/12

10-08-16 (x

Dart Aei	rospace	ELIA						,	ų i
W/O:			WC	RK ORDER CHANG	ES				
DATE	STEP	PRO	CEDURE CHAI	NGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
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									•
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Part No	:	PAR #:	Fault Cate	gory:	_ NCR: Yes	No DQ	A :	_ Date: _	
	R	esolution:	Dispositio	າ:	_ QA: N/C CI	osed:		Date: _	
NCR:		\	WORK ORDI	ER NON-CONFORMA	NCE (NCF	R)			
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Work Order ID 610	74
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August 5, 2010 11:02:33 AM



Page 5

Item ID:

D212-664-101

Accept



Setup Start

Stop



Revision ID:

Item Name:

Crosstube Fwd

Start Date:

Required Date: 8/20/10

8/05/10

Start Qty: 1.00

Req'd Qty: 1.00



Cust Item ID:

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling: Date:

0.00

Set Up/

Run Hours

SPC (Y/N):

Date:

Tool ID

Date:

Tool # Plan

Code

Run

Accept

Qty

Start

Reject

Qty



Number Stamp

10-08.16

Insp.

Reject

Sequence ID/

Work Center ID

200

SprayPaint Spray Painting Operation Description

Spray Painting per QSI005 4.2

Memo

SprayPaint

0.00

1-Prime inside and outside crosstube as per QSI 005 4.2 2-Paint outside crosstube with White Imron as per QSI 005 4.2

PRIME:

Start Time: (0; 66 Fininsh Time: ((, 00

PAINT:

Start Time: 3 00 Finish Time: 4 00

210

Quality Control

QC14- Inspect Spray Paint

0.00

Memo

Then, Wrap in plastic bag to protect from scratches

W/O:			W	ORK ORDER CHANG	ES			-					
DATE	STEP	PRO	OCEDURE CHA	ANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector				
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									•				
Part No	:	PAR #:	Fault Cate	egory:	NCR: Yes	No DC	QA:	Date: _					
	R	esolution:	Disposition	on:	_ QA: N/C C	losed: _		Date: _					
NCR:			WORK ORDER NON-CONFORMANCE (NCR)										
DATE	OTED	Description of NC		Corrective Action Section		Verif	ication	Approval	Approval				
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign Date	& Sec	tion C	Chief Eng	QC Inspector				
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Work Order ID 61074

August 5, 2010 11:02:33 AM



Page 6

Item ID:

D212-664-101

Accept



Setup Start



Revision ID:

Start Date:

Item Name: Crosstube Fwd

Required Date: 8/20/10

8/05/10

Start Qty: 1.00 Req'd Qty: 1.00

Cust Item ID:

Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Start

Stop

Run

Stop



Sequence ID/

Work Center ID

Date:

SPC (Y/N):

Set Up/

Run Hours

Tool ID

Date:

Tool # Plan

Code

Accept Oty

Reject Qty

Reject Insp. Number Stamp

(0 -08-17

220

Crosstubes

Crosstubes

Crosstubes

Operation

Description

0.00

0.00

1- Lightly scuff the bonded area using a 320 grit sand paper and clean the area with 41058 wash 'n' wipe

2-Install supports with magnobond as per QSI 015 Adhere for for 12 Hrs

Memo

Memo

6398 Magnobond

Batch:

230

QC

240

QC5- Inspect part completeness to step on W/O

0.00

0.00

Quality Control

Pick Kit

0.00

Packaging

Memo

0.00

10/8/18

Packaging

Dart Ae	rospace	Ltd						. 1
W/O:		***	WO	RK ORDER CHANGE	S			
DATE	STEP	PROCEDURE CHANGE			Ву	Date Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
Part No	:	PAR #:	Fault Cated	norv:	NCR: Yes	No DQA:	Date:	
Part No: PAR #: PAR #:								
NCR:		\	WORK ORDE	R NON-CONFORMA	NCE (NCF	1)		
DATE	STEP	Description of NC Section A	Initial Chief Eng	Corrective Action Section Action Description Chief Eng	n B Sign 8 Date	Verification Section C	Approval Chief Eng	Approval QC Inspector
			Office Ering	Chief Elig	Date			

Work Order ID 61074

Page 7

August 5, 2010 11:02:33 AM

Item ID:

D212-664-101

Accept

Date:

Setup Start

Stop

Revision ID:

Item Name:

Crosstube Fwd

Start Date:

Required Date: 8/20/10

8/05/10

Start Qty: 1.00

Req'd Qty: 1.00

Cust Item ID: Customer:

Reference:

Approvals:

Process Plan: _____ Date: ____

Date: QC:

Tooling:

SPC (Y/N):

Tool ID

Date:

Code

Tool # Plan

Stop

Reject

Qty



Sequence ID/ Work Center ID

250

Quality Control

Operation Description

QC4-100% Inspect kits for completeness

Memo

Set Up/ **Run Hours**

0.00

Ploola 2

Run

Start



Accept

Qty

Reject Insp. Number

Stamp

260

Packaging Packaging

Packaging

Memo

0.00

Identify and pack for shipping as per PPP D212-664-101

270

Quality Control

QC21- Final Inspection - Work Order Release

0.00

Memo

0.00

W/0:6	1074	WORK ORDER CHANG	ES				
DATE	STEP	PROCEDURE CHANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
	150	missing Anglo 3D LIL Pom who ADD Anglo 50 616 8 MILY988 ON +18 10 Kit 5 NASH9006031	S	10/8/19			5/0/08/19
		aparte who or Bon		P1,80,19			Soloblis

Part No: D212-664-101 PAR #:	Fault Category:	NCR: Yes No DQA:	Date:
Resolution:	Disposition:	QA: N/C Closed:	Date:

NCR:			WORK ORDE	ER NON-CONFORMAN	CE (NCR)			
		Description of NC		Corrective Action Section E	3	Verification	Approval	Approval
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Chief Eng	QC Inspector
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	1							

Picklist Print

August 5, 2010 11:02:39 AM

Work Order ID: 61074

Parent Item: D212-664-101

Parent Item Name: Crosstube Fwd

Start Date: 8/05/10

Required Date: 8/20/10

Start Qty: 1.00

Required Qty: 1.00

Comments:

IPP Rev:E□04.02.16□Reformat□KJ/DS

IPP Rev:F 06-03-29 Remove Coments on Pick List JLM JLM

IPP Rev:G 07-04-30

As per Rev C

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date State Issued	us
D212-664-101TRN Crosstube Turning Detail		Manufactured	No	4.		110	Each	2.0000		1 UB	10-	08-10	
				Location		Loc	<u>Oty</u>	Loc Code					
				LG	60527 60528		2 1 1			TO .			
D3595-063-450		Manufactured	No			230	Each	38.5390	4 	4.210526		(O -0& -(7

RUBBER CUSHION

Location Loc Qty Loc Code LG 38.53897368 5.97897368 53775 58161 3.56 29 59580___

W/O:			WC	ORK ORDER CHANGE	S				
DATE	STEP	PRO	OCEDURE CHA	NGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
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								:	
Part No	:	PAR #:	Fault Cate	gory:	NCR: Yes	No DQ	\:	Date:	
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NCR:		,	WORK ORD	ER NON-CONFORMA	NCE (NCR	1)			
DATE	STEP	Description of NC	Initial	Corrective Action Section Action Description	n B Sign &	Verific		Approval	Approval
		Section A	Chief Eng	Chief Eng	Date	Section	on C	Chief Eng	QC Inspector
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August 5, 2010 11:02:39 AM

Work Order ID: 61074

Parent Item:

D212-664-101

Parent Item Name: Crosstube Fwd



Start Date: 8/05/10

Required Date: 8/20/10

Start Qty: 1.00

Required Qty: 1.00

MS21920-25



Purchased

No

220

123.0000 Each

10-08-17

<u>Locatio</u>	<u>n</u>	Loc	c Oty	Loc Code	
LG			80		
	113281		0		
	114759		30		
-	114901		25		
	115278		25		
ST451			43		
	113281 -		5		
	113282		18		
	113744		1		
	114141		19		
		220	Each	28.0000	2

D2893-1



2.75 Support

Manufactured

No

No

2

10-08-17

Loc Qty Location Loc Code LG 28 53340 2 53774 6 56354 20 13.0000 240 Each

D3428-1 Placard

Manufactured

Location	Loc Qty
ST056	13
60133	3
60484	10

Loc Code

j						1	. ,
	WO	RK ORDER CHANGE	ES				
PRO	OCEDURE CHAN	IGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
PAR #:	Fault Categ	jory:	NCR: Yes	No DQ	A:	Date:	
ution:	Disposition	:	QA: N/C Clo	sed:		Date: _	
	WORK ORDE	R NON-CONFORMA	NCE (NCR))			
Description of NC				Verification		Approval Ar	Approval
Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date			Chief Eng	QC Inspector
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	PAR #: ution:	PROCEDURE CHAN PROCEDURE CHAN PAR #: Fault Categ ution: Disposition WORK ORDE Description of NC Section A Initial	PROCEDURE CHANGE PAR #: Fault Category: ution: Disposition: WORK ORDER NON-CONFORMA Description of NC Section A Initial Action Description	PAR #: Fault Category: NCR: Yes Nution: Disposition: QA: N/C Clo WORK ORDER NON-CONFORMANCE (NCR) Description of NC Section A Section B Initial Action Description Sign &	WORK ORDER CHANGES PROCEDURE CHANGE By Date PAR #: Fault Category: NCR: Yes No DQ/ ution: Disposition: QA: N/C Closed: WORK ORDER NON-CONFORMANCE (NCR) Description of NC	WORK ORDER CHANGES PROCEDURE CHANGE By Date Qty PAR #: Fault Category: NCR: Yes No DQA: ution: Disposition: QA: N/C Closed: WORK ORDER NON-CONFORMANCE (NCR) Description of NC	WORK ORDER CHANGES PROCEDURE CHANGE By Date Qty Chief Eng / Prod Mgr PAR #: Fault Category: NCR: Yes No DQA: Date: ution: Disposition: QA: N/C Closed: Date: WORK ORDER NON-CONFORMANCE (NCR) Description of NC Corrective Action Section B Verification Section C Section C Chief Eng (NCR)

Picklist Print

August 5, 2010 11:02:39 AM

Page 3

Work Order ID: 61074 Parent Item: D212-664-101 Required Date: 8/20/10 Parent Item Name: Crosstube Fwd **Start Date: 8/05/10** Required Qty: 1.00 Start Qty: 1.00 AN6-35A Purchased No 240 71.0000 Each Location Loc Qty Loc Code ST343 71 71 115204 AN6-36A Purchased No 240 Each 80.0000 Location Loc Qty Loc Code ST343 80 . .. 114330 30 115016 50 MS21042L6 No 240 Each 362.0000 Purchased Nut Location Loc Oty Loc Code ST300 362

111578

114495 115300

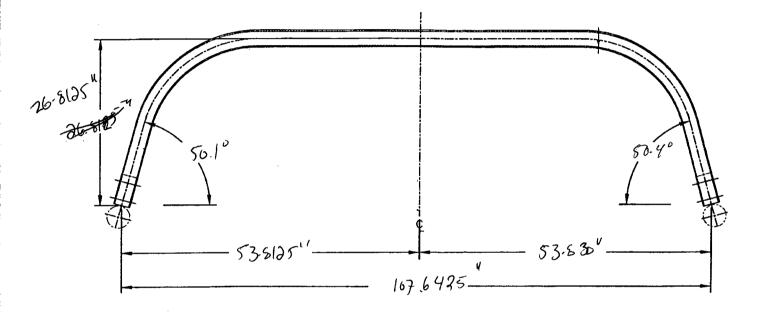
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W/O:			W	ORK ORDER CHANGE	S					
DATE	STEP	PRO	OCEDURE CHA	NGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	
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Part No		PAR #:								
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NCR:		1	WORK ORD	ER NON-CONFORMAN	NCE (NC	R)				
DATE	STEP	Description of NC		Corrective Action Section	B Sign		ication	Approval	Approval	
	0.2.	Section A	Initial Chief Eng	Action Description Chief Eng	Date		ction C	Chief Eng	QC Inspector	
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DART AEROSPACE LTD	Work Order:	41079
Description: Crosstube High Fwd (205/212/412)	Part Number:	D212-664-101
Inspection Dwg: D212-664-141 Rev: D		Page 1 of 1

Required Dimension	Min	Max
Height	26.79	27.05
1/2 Span	53.59	53.85
Angle	49	52
Total Span	107.18	107.7



	Comments	
QC15 Inspection	18	

Date	Change	Revised by	Approved
07.02.06	New Issue	KJ/JM	
07.05.31	Dimensions updated per Dwg Rev C	KJ/JM , A	
10.04.01	Dwg Rev updated	KJ 94	1
(07.05.31	07.05.31 Dimensions updated per Dwg Rev C	07.05.31 Dimensions updated per Dwg Rev C KJ/JM

W/O:			WO	RK ORDER CHANG	ES						
DATE	STEP	PRO	OCEDURE CHAN	IGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector		
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Part No	:	PAR #:	Fault Category: N			NCR: Yes No DQA: Date:					
	Resc	olution:	Disposition	:	_ QA: N/C C	losed:		Date: _			
NCR:			WORK ORDE	R NON-CONFORMA	ANCE (NC	7)					
DATE	0755	Description of NC			ion B	Verific	ation	Approval	Approval		
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign of Date	& Secti	Section C	Chief Eng	QC Inspector		
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Item	Qty -141	Qty -141B	Part Number	Description
1	X		D212-664-141	CROSSTUBE ASSEMBLY (205/212/412 HIGH FWD)
2		Х	D212-664-141B	CROSSTUBE ASSEMBLY (214 HIGH FWD)
3	1	1	D6005-128	CROSSTUBE
4	2	2	D2893-1	SUPPORT
5	4	4	D3595-063-450	RUBBER CUSHION
6	4	4	MS21920-25	CLAMP (OR MS21920-26)
7	A/R	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

GENERAL NOTES:

В

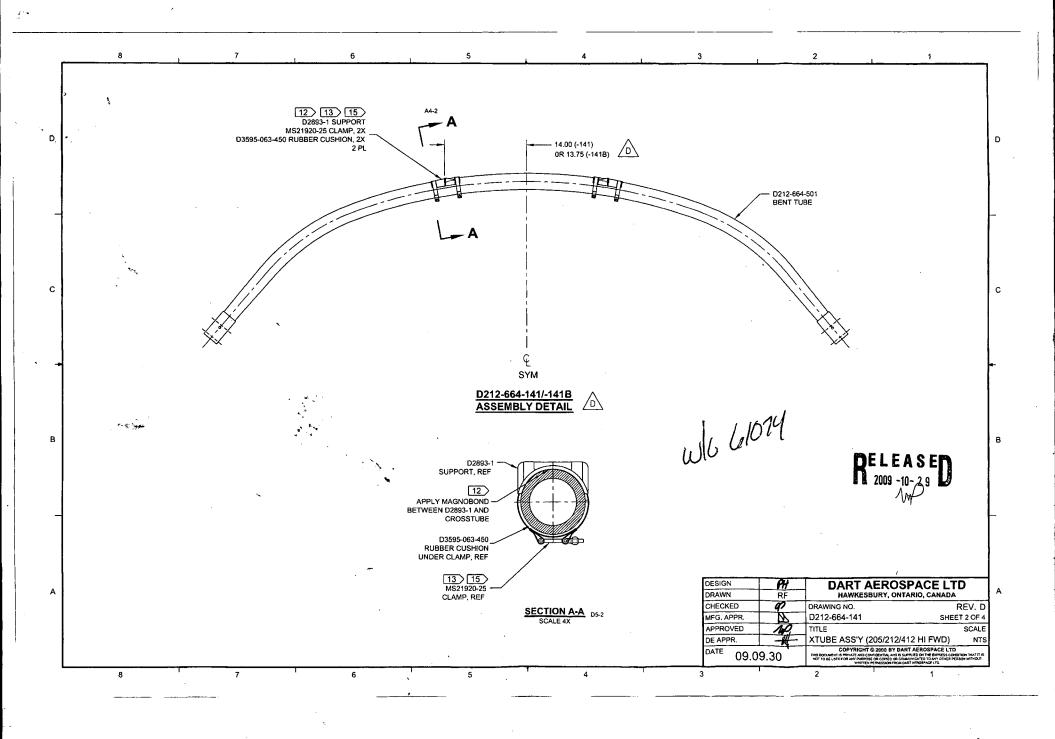
- 1) MATERIAL: MANUFACTURED FROM D6005-128
 - FINISHED LENGTH = 126.514±0.020
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1 PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
 - PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER *D212-664-XXX* AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS
- 7) WEIGHT: D212-664-141 = 33.6 lbs (PER IIN-D212-664) D212-664-141B = 33.6 lbs (PER IIN-D212-664)
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALY, TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 3 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2893-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2893-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-25 CLAMPS (OR -26) WITH D3595-063-450 RUBBER CUSHIONS TO SECURE THE D2893-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE OF CROSSTUBE
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

w/o 61079

RELEASED 2009 -10, 2,9

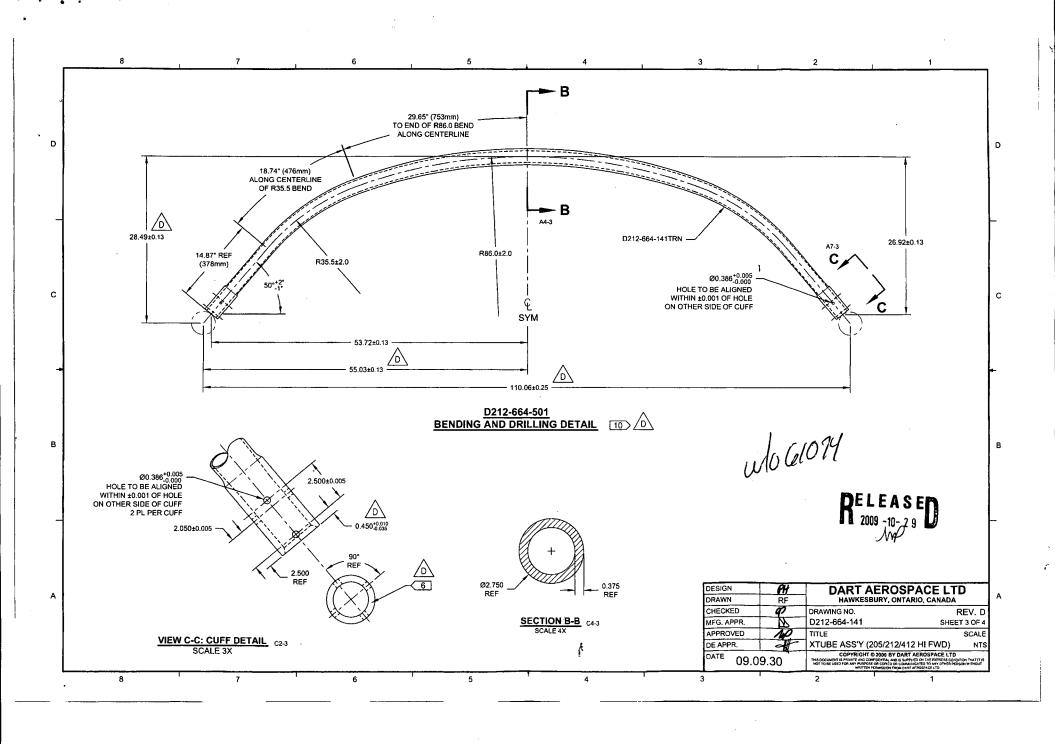
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D	REORG TO CUR REMOV & B6-3); MOVED	REFORMAT/REVISE GENERAL NOTES/PART LIST: REFORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS; ADD -141B (ZN 84-2, 04-2); REMOVED REF & ADD TOLERANCES (ZN 84-3, C6-3, C8-3 & 86-3); RELOCATED FLAG #6 PER PAR 06-046 (ZN A5-3); MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4 REMOVE -851 ABRASION STRIP; ADD MAGNOBOND PH 07.03.08							
С			SION STRIP; ADD MAGNOBOND VERSE CLAMPS	RSE CLAMPS PH 07.03.08					
В	ADD H		LES FOR COMPATABILITY WITH BHT/AA PH 05.02.04						
Α	NEW IS	SSUE		PH	00.12.12				
REV.			DESCRIPTION	BY	DATE				
DESIGN		PH	DART AEROSP	ACE	LTD				
DRAWN		RF	HAWKESBURY, ONTAR						
CHECK	ΕĎ	P	DRAWING NO.		REV. D				
MFG, Af	PR.	N	D212-664-141	5	SHEET 1 OF 4				
APPRO!	VED	10	TITLE SCALE						
DE APP	R.		XTUBE ASS'Y (205/212/412 HI FWD) NTS						
DATE									

Dart Ae	rospace	Ltd						•	
W/O:			WO	RK ORDER CHANG	ES			"	
DATE	STEP	PRO	CEDURE CHAI	IGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
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Part No:PAR		PAR #:	Fault Cate	jory:	_ NCR: Yes	No DQ	A:	Date: _	
	Re	esolution:	Disposition	n:	_ QA: N/C C	losed:		Date: _	
NCR:			WORK ORDE	R NON-CONFORMA	ANCE (NCI	R)			.4
		Description of NC		Corrective Action Section	on B	Verific	cation	Approval	Approval
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign Date	& Secti	ion C	Chief Eng	QC Inspector
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Dart Ae	rospace	e Ltd							
W/O:			W	ORK ORDER CHAN	VGES				
DATE	STEP	PROCEDURE CHANGE				Ву	Date Q	Approval Chief Eng / Prod Mgr	Approval QC Inspector
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Part No	:	PAR #:	Fault Ca	tegory:	NCF	l: Yes N	lo DQA: _	Date: _	
	R	esolution:	Disposit	ion:	QA:	N/C Clo	sed:	Date: _	
NCR:		V	NORK OR	DER NON-CONFOR	MANCE	(NCR)	ı		
DATE	CTED	Description of NC		Corrective Action S	Section B		Verification	n Approval	Approval
DAIE	STEP	Section A	Initial Action Descrip Chief Eng Chief Eng		on Sign & Date		Section C	1.1.	QC Inspector

NCR:		WORK ORDER NON-CONFORMANCE (NCR)									
		Description of NC		Corrective Action Section B		Verification	Approval	Approval			
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Section C	Chief Eng	QC Inspector			
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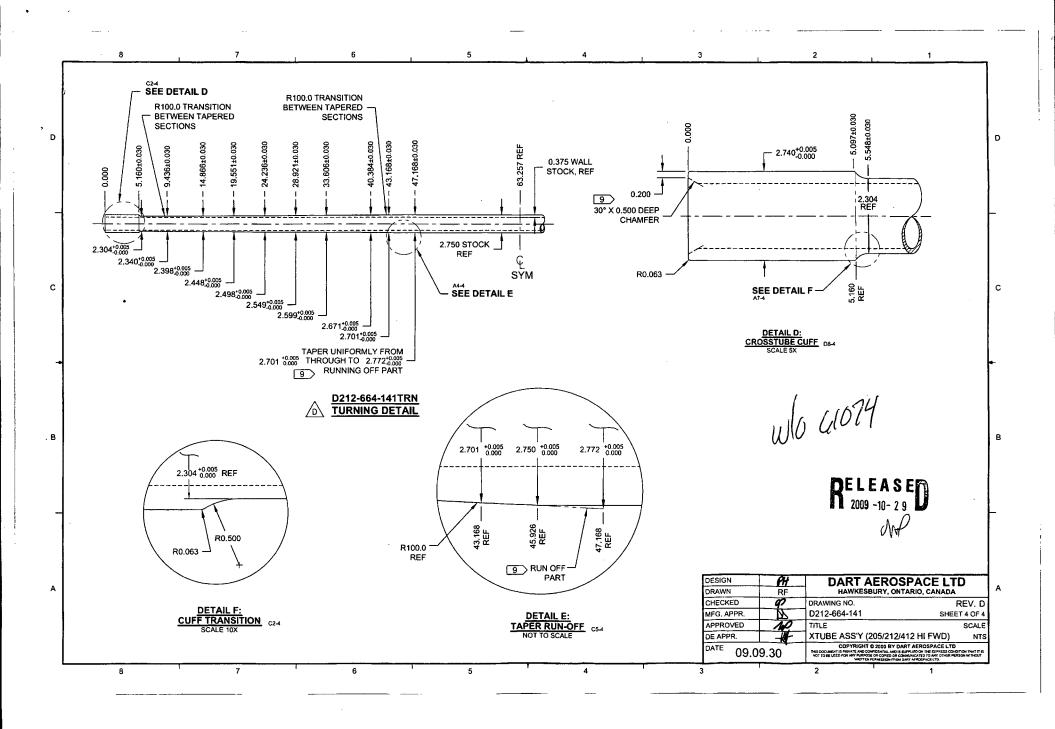
W/O:		WORK ORDER CH	IANGES				
DATE	STEP	PROCEDURE CHANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
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							•
Part No	:	PAR #: Fault Category:	NCR: Yes	No DQ	A:	Date: _	

Disposition: _____ QA: N/C Closed: _____ Date: ____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)									
	1	Description of NC		Corrective Action Section B			Approval	Approval			
DATE	STEP	Section A	Initial Chief Eng	Action Description Chief Eng	Sign & Date	Verification Section C	Chief Eng	QC Inspector			
* •											

NOTE: Date & initial all entries

Resolution:



Dart Ae	rospace Ltd						• <i>v</i>	
W/O:			WORK ORDER	CHANGES	1			
DATE	STEP	PR	OCEDURE CHANGE	Ву	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector
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Part No	:	PAR #:	Fault Category:	NCR: Ye	s No DQ	A:	Date: _	
	Resolution:		Disposition:	QA: N/C	Closed:		Date: _	
NCR:			WORK ORDER NON-CON	IFORMANCE (NO	CR)			
	T	•	Corrective Actio	m Castina D			Γ	

	W	ORK OR	DER NON-CONFORMANCE (NCR				
	Description of NC	-	Corrective Action Section B	Varification	Anneval	Annyoval	
STEP	STEP	Section A	Initial Chief Eng	Action Description Sign & Date	Section C	Chief Eng	Approval QC Inspecto
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	STEP	STEP Description of NC Section A	STEP Description of NC Section A Initial Chief Eng	STEP Description of NC Section A Chief Eng Corrective Action Section B Chief Eng Chief	STEP Section A Initial Chief Eng Chief Eng Section C Section C Section C	STEP Description of NC Section A Initial Action Description Chief Eng Chief	

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LIQUID PENETRANT TEST REPORT

P- 05489

ACUREN	*
_	PAGE OF
DART ACROSMICE	DATE AM PM .
to Alanael letterstate l'and	ACUREN JOB NO. 133-10-0795
1370 277	
IDDRESS A FORER DEEN	PO/WO No. WORK LOCATION MS ADDRESS
AHORES BUR! OR	
11577	ACCEPTANCE STD. 18M1417 CSI CS REV./DATE
	losstuBES
rem(s) Examined	ow in RESULTS
SEE W.O. # BET	
PROCEDURE NO. LT-COREV/DATE	TECHNIQUE NO. LT-REV./DATE
ART NO.	MATERIAL ALDIDE ANGMILIER THICKNESS NIA
	DENETHAND Impedien on 100% of
THE EXTERNAL SURFACE	
EST DETAILS	
¶ETHOD	WATER WASH SOLVENT REMOVABLE POST EMULSIFIED
PENETRANT MINIMUM DWELL TIME 10 MIN.	BLACK LIGHT S/N 3793 200TPUT > 1000 μ W/cm²
PENETRANT REMOVER 11.2 C MINIMUM DRY TIME >10 MIN.	OTHER
DEVELOPER SKD SS MINIMUM DWELL TIME 10 MIN.	LIGHT METER S/N CAL DUE DATE NEW CALOUE
DEVELOPER TYPE □ NON AQUEOUS □ AQUEOUS □ DRY	
EST SURFACE URFACE CONDITION □ AS GROUND □ AS WELDED	☐ MACHINED ☐ SHOT BLASTED ☐ CLEAN BARE METAL
URFACE CONDITION ☐ AS GROUND ☐ AS WELDED URFACE TEMPERATURE ☐ < - 4°C/ 20°F ☐ - 4°C/ 20°F TO 10°C/50°	
RESULTS- (D METRIC DIMPERIAL)	
THAT COMMENTS ACCORDED	ITEM 10: - D407-667-205 (Tron# 1/2)
# WETFLUE L. P. I. ON 100% ENTERSURE V X	TIEM D: - Dala-64-101 (TON# 3; 4)
1 CROSS PUBE - WO. 10 59887 V	ITEM 10: - D 212 - 664-107 (TREM#5:6)
2 CR=58 TUBE - WO ID 59888 V	
3 CRESS TUBE - W.O. ID 61074	
4 CROSS TUBE -W.O. 1D 61075	
5 CROSS TUBE - W.O. ID CO 25 8 1	
6 Class Tuber - W.O. 1260259	a "Chos tube"
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cope of Services	the control of the state of the
he agreement of Acuren Group Inc. to perform services extends only to those services provided for in writing. Unde	r no circumstances shall such services extend beyond the performance of the requested services. It is expressly understood based on information and assumptions supplied by the owner/operator and are not intended nor can they be construed as
	owner/operator retains complete responsibility for the engineering, manufacture, repair and use decisions as a result of the
tandard of Care	ilar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or
plied, is made or intended by Acuren Group Inc.	
IGNATURES	
CLIENT REPRESENTATIVE Town Titley	DTR#E48667
ECHNICIAN (SIGNATURE):	REPORT
(V/=2=2=================================	REVIEWED BY:
IAME (PRINT):	NAME INITIALS 2 ^{NO} TECHNICIAN
CGSB LEVEL SNT LEVEL CGSB LE	VEL SNT LEVEL
CGSB REG. NOCGSB RE	G. NO